**DNG 7500 Digital Noise Generator**

The Noisecom DNG7500, generates programmable, user specified, pseudo-noise and CW signal spectrums for RF, Microwave, and Fiber Optic equipment testing. It can provide a 70 MHz RF spectrum output including noise and CW waveforms to precisely emulate real-world noise and interference conditions. Noise and Signal parameters can be entered via keypad and a 8.4 inch color Graphical User Interface (gui). It can also generate signals from data files supplied by the user and downloaded via an Ethernet remote interface. The DNG7500 can provide digitally simulated Additive White Gaussian Noise (AWGN) with the following user settable parameters: precise start and stop frequencies with brick wall filters; tilt; notch (stop-band) filters with program mable frequency, bandwidth, and depth.

The DNG7500 can generate any combination of noise and signals adjacent or occupying overlapping frequency positions with precise relative amplitudes.

CW signals are generated with user programmable amplitude and frequency. Optionally, other types of signals can be included or loaded by the user via Ethernet. At the heart of the DNG7500 is a state-of-the-art 14-bit, 150 M-Sample/s Arbitrary Waveform Generator (AWG) with 64 M-Bytes of memory. This allows the most accurate signal and noise simulation to date.
General Specifications

- 70 MHz RF output bandwidth generates noise and interfering signals for all types of communications applications
- Graphical User Interface which can plot predicted spectrum
- 8.4” Color VGA Display
- Keypad-Full Local Control
- Waveform building from front panel
- Keyboard interface
- Rugged N-type Connectors
- 64 M-Byte memory
- Generate and save waveforms with Programmable CW and Noise Parameters in Windows XP.
- View noise and CW spectrum plot on display.
- Variable output attenuator
- Rack mountable chassis
- The DNG includes interfaces for video display, keyboard, and mouse.
- Remote operation and data access is available through optional integral GPIB and Ethernet ports.
- Output signals are available at a type N connector with maximum VSWR of 1.50:1.

Applications

- **CATV**
  - Test this equipment against every possible noise & interference
  - Upstream Interference.
  - Cable Modem Termination (CMTS) System, Noise and interference testing
  - Return Path monitoring systems testing - Creates interfering spectrums including shaped noise, ingress, signals & bursts
  - Loading signals for Optical Transmit Lasers
  - A/D Converter Characterization

- **Satellite Communications**
  - Noise and interference

- **Noise Power Ratio Testing**
  - Programmable noise bandwidth, notch bandwidth & frequency. Custom frequency conversion & automated NPR measurement systems available.
### Specifications

**RF Output**
- **Frequency Range**: 500 kHz to 70 MHz
- **Frequency Resolution**
  - Noise: 1 Hz
  - CW: 1 kHz
- **Output Bandwidth**: 70 MHz
- **Output Power**: 0 dBm
- **Output Attenuator**: 63.9 dB in 0.1 dB steps
- **Impedance**: 50 Ohms
- **VSWR**: 1.5:1
- **Output Connector**: Type N
- **Harmonically Related Spurs**: -60 dBc typical
- **Non-harmonic Spurs**:
  - -60 dBc typical <50MHz
  - -55 dBc typical <60MHz
  - -50 dBc typical >60MHz

**Generator AWG**
- **Memory**: 32 MB standard, optionally up to 64 MB
- **DAC Resolution**: 14 bits
- **DAC Output Rate**: 150 MSPS

**General**
- **Controller/Processor**: Pentium Class 500 MHz
- **Memory**: 256 MB
- **Hard Drive**: 20.5 GB
- **Display**: 8.4” TFT-LCD 640x480 resolution
- **Operating System**: Windows XP
- **Interfaces**: Ethernet 10/100baseT, Video, Keyboard, mouse, GPIB
- **Remote**: Ethernet or GPIB (optional)

### Options

- **Dopt02**: Custom Frequency Converters.
- **Dopt03**: Rack Mount Kit.
- **DoptBNG**: Burst Noise Function.
- **Dopt016**: GPIB.
- **Dopt017**: Removable Hard Drive plus one additional HD with system STRONGLY SUGGESTED FOR SECURE ENVIRONMENTS.